WHAT IS CLAIMED IS:

1. A method of forming a silicon-on-insulator device, comprising:

defining an active region in a silicon-on-insulator substrate;

doping the entire active region a first time with an impurity of a certain conductive type;

masking a main part of the active region; and

doping peripheral parts of the active region at least a second time and a third time with an impurity of said certain conductive type.

2. The method of claim 1, wherein the impurity used the second time or the third time has a higher atomic number than the impurity used the first time.

3. The method of claim 2, wherein the impurity used the first time comprises boron, and the impurity used the second time or the third time comprises indium.

4. The method of claim 2, wherein the impurity used the first time comprises phosphorus, and the impurity used the second time or the third time comprises antimony.

5. The method of claim 1, wherein the peripheral parts of the active region are doped the second and third times by ion implantation.

6. The method of claim 5, wherein mutually different ion implantation energies are used the second time and the third time.

7. The method of claim 5, wherein the peripheral parts of

the active region are doped by ion implantation a fourth time in addition to the second time and the third time, mutually different ion implantation energies being used the second, third, and fourth times.

8. The method of claim 1, wherein the silicon-on-insulator substrate is of the fully depleted type.

9. The method of claim 1, wherein defining the active region comprises local oxidation of silicon.

10. A method of forming a silicon-on-insulator device, comprising:

defining an active region in a silicon-on-insulator substrate;

doping the entire active region with an impurity of a certain conductive type;

masking a main part of the active region;

implanting ions of said certain conductive type into peripheral parts of the active region with a first average projection range; and

implanting ions of said certain conductive type into the peripheral parts of the active region with a second average projection range different from the first average projection range.

11. The method of claim 10, wherein the active region has a maximum thickness permitting full depletion during operation of the silicon-on-insulator device.

12. The method of claim 11, wherein:

the second average projection range is greater than the first average projection range;

the first average projection range is at most thirty

nanometers less than the maximum thickness of the active region; and

the second average projection range is at most ten nanometers less than the maximum thickness of the active region.

13. The method of claim 10, wherein the impurity with which the entire active region is doped comprises boron.

14. The method of claim 13, wherein the ions implanted into the peripheral parts of the active region with the first and second average projection ranges are boron difluoride ions.

15. The method of claim 13, wherein:

the ions implanted into the peripheral parts of the active region with the first average projection range are boron difluoride ions; and

the ions implanted into the peripheral parts of the active region with the second average projection range are indium ions, the second average projection range being greater than the first average projection range.

16. The method of claim 13, wherein the ions implanted into the peripheral parts of the active region with the first and second average projection ranges are indium ions.